

We Claim:

1. A wire feeder connectable to a power supply of an arc welder comprising:  
a power cable designed to be electrically connectable to said power supply of said arc welder;  
a welding wire motor designed to feed a consumable welding wire; and,  
a power conditioner to detect a current level, a voltage level, or combinations thereof from said power source of said arc welder used to power said welding wire motor, said power conditioner modifying the current level, the voltage level, or combinations thereof to properly power said welding wire motor when said detected current level, the voltage level, or combinations thereof is incompatible to power said welding wire motor.
2. The wire feeder as defined in claim 1, wherein said power conditioner includes an AC voltage regulator, a DC voltage regulator, a current limiter, a phase regulator, a frequency regulator, or combinations thereof.
3. The wire feeder as defined in claim 1, wherein said power conditioner includes a microprocessor, circuit board, or combinations thereof to detect and at least partially modify said current level, said voltage level, or combinations thereof.
4. The wire feeder as defined in claim 2, wherein said power conditioner includes a microprocessor, circuit board, or combinations thereof to detect and at least partially modify said current level, said voltage level, or combinations thereof.
5. The wire feeder as defined in claim 1, wherein said power conditioner and said welding wire motor are housed in a unit separate from a unit housing for said power supply of said arc welder.

6. The wire feeder as defined in claim 3, wherein said power conditioner and said welding wire motor are housed in a unit separate from a unit housing for said power supply of said arc welder.

7. The wire feeder as defined in claim 2, wherein said power conditioner and said welding wire motor are housed in a unit separate from a unit housing for said power supply of said arc welder.

8. The wire feeder as defined in claim 4, wherein said power conditioner and said welding wire motor are housed in a unit separate from a unit housing for said power supply of said arc welder.

9. The wire feeder as defined in claim 5, including a signal conditioner to receive, send, or combinations thereof a control signal between said arc welder and said wire feeder.

10. The wire feeder as defined in claim 6, including a signal conditioner to receive, send, or combinations thereof a control signal between said arc welder and said wire feeder.

11. The wire feeder as defined in claim 7, including a signal conditioner to receive, send, or combinations thereof a control signal between said arc welder and said wire feeder.

12. The wire feeder as defined in claim 8, including a signal conditioner to receive, send, or combinations thereof a control signal between said arc welder and said wire feeder.

13. The welder as defined in claim 1, wherein power cable includes a connector that is designed to be releasably connectable to said power supply of said arc welder.

14. The welder as defined in claim 2, wherein power cable includes a connector that is designed to be releasably connectable to said power supply of said arc welder.

15. The welder as defined in claim 5, wherein power cable includes a connector that is designed to be releasably connectable to said power supply of said arc welder.

16. The welder as defined in claim 10, wherein power cable includes a connector that is designed to be releasably connectable to said power supply of said arc welder.

17. The welder as defined in claim 13, wherein said connector is detachably connected to said power cable.

18. The welder as defined in claim 14, wherein said connector is detachably connected to said power cable.

19. The welder as defined in claim 15, wherein said connector is detachably connected to said power cable.

20. The welder as defined in claim 16, wherein said connector is detachably connected to said power cable.

21. The welder as defined in claim 1, including a wire speed selector to select a speed of said welding wire motor.

22. The welder as defined in claim 20, including a wire speed selector to select a speed of said welding wire motor.

23. A method of connecting a wire feeder to an arc welder comprising:  
providing a power cable designed to be electrically connectable to a power supply of said arc welder;

detecting a current level, a voltage level, or combinations thereof from said power supply; and,

modifying said detected current level, the voltage level, or combinations thereof when said detected current level, the voltage level, or combinations thereof is incompatible to power a welding wire motor of said wire feeder.

24. The method as defined in claim 23, including a power conditioner that modifies said current level, the voltage level, or combinations thereof, said power conditioner including an AC voltage regulator, a DC voltage regulator, a current limiter, a phase regulator, a frequency regulator, or combinations thereof.

25. The method as defined in claim 23, including the step of detecting a control signal, said control signal being an analog signal, a digital signal, an electromagnetic signal, a fiber optic signal, or combinations thereof, said control signal providing a signal for wire feed speed, arc welder identification, welding parameter information, or combinations thereof.

26. The method as defined in claim 24, including the step of detecting a control signal, said control signal being an analog signal, a digital signal, an electromagnetic signal, a fiber optic signal, or combinations thereof, said control signal providing a signal for wire feed speed, arc welder identification, welding parameter information, or combinations thereof.

27. The method as defined in claim 23, wherein power cable includes a connector that is designed to be releasably connectable to said power supply of said arc welder.

28. The method as defined in claim 25, wherein power cable includes a connector that is designed to be releasably connectable to said power supply of said arc welder.

29. The method as defined in claim 24, wherein power cable includes a connector that is designed to be releasably connectable to said power supply of said arc welder.

30. The method as defined in claim 26, wherein power cable includes a connector that is designed to be releasably connectable to said power supply of said arc welder.

31. The method as defined in claim 27, wherein said connector is detachably connected to said power cable.

32. The method as defined in claim 28, wherein said connector is detachably connected to said power cable.

33. The method as defined in claim 29, wherein said connector is detachably connected to said power cable.

34. The method as defined in claim 30, wherein said connector is detachably connected to said power cable.